LEARNING PREFERENCES THROUGH DISTANCE EDUCATION AND THE ASSOCIATION WITH STUDENTS' PROFILE

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Abstract

Distance learning is becoming more and more integrated into the everyday educational procedure. COVID 19 pandemic was a trigger for critical changes in the whole educational system, across all educational levels. These changes have caused a complete reengineering of the educational environment. The stakeholders in such an attempt are many and they have varying viewpoints. In the core of such a process two groups are mainly involved and continuously interacting with each other. These groups namely include the instructors and the students. In the current study an effort has taken place to record certain learning preferences originating from the profile of the students. Research is based on a structured questionnaire survey, which took place during 2023. The students that participated in the study are all university undergraduate and graduate students. The research sample includes people who have experienced distance learning. The survey collected up till now 214 responses, from students, studying in Greece. The current study focuses on the educational preferences, and more specifically on the learning preferences, which are recorded and analyzed alongside the characteristics and attributes of the participating students. The survey, among other preferences, identified as a significant learning approach "taking notes and reading the written contexts" along with "watching a demonstrative presentation of the information".

Keywords: Learning Preferences, Distance Education, Students' Profile.

1   INTRODUCTION

It is true that nowadays colleges and universities face a wide range of challenges. The latter include disengaged students, high dropout rates, and the ineffectiveness of a traditional "one-size-fits-all" approach to education. Moreover, current COVID pandemic has highlighted the need for a shift in education and a following re-engineering. In this context, it is necessary to promote innovation in training and education. Technological transformation and implementation of new approaches and techniques will make education and training sustainable and robust in the face of uncertainty and force majeure situations.

The demand for a resilient education system defines a number of attributes and characteristics. These include the following:

- Flexibility: the system needs to be flexible to accommodate for the needs and timetable of the students and educators without compromises to its quality. It is also important to take into consideration unforeseen situations.

- Outreach: It must be able to reach remote areas without extreme costs for new infrastructure

- Digital Capabilities: It must exploit the advantages of the digital realm and provide immersive learning experiences

- Students' and Educators' Focused System: It must take into account the preferences of students and educators so that education can move from its traditional style and be rendered to one of personalized learning.

All the above needs and capabilities have produced an increase in the offers of digital, distant education. In this context, the proliferation of MOOCs could be highlighted as examples. All these initiatives have

partly covered the requirements of this era and failed to address all dimensions and issues mentioned before. More specifically, personalized learning could improve digital education and make it more attractive not only to students but also to educators, adults, policymakers. This approach, the personalized education, could enable every student to enjoy a unique educational experience directly tailored to their needs. Similar considerations apply for educators. Personalized education has the potential to increase the quality of the class without costs in time and effort. Consequently, developing an advanced digital culture for universities will require innovation and creative implementation. Digital education should not be seen as a mere utility or a tool. Digital education should be identified as an opportunity for universities to lead in the 21st century. Therefore, any new attempt on that field should be designed as "disruptive technology" that will enable universities and researchers to re-think and re-design the notion of education. A number of issues should be addressed focusing on the issue of personalized education.

At the same time, there has been a lot of effort in the last few years to produce all the necessary infrastructure to support online distance learning educational programs. Video and audio devices and tools facilitated the communication on both ends of this effort. Instructors and tutors have customized themselves with this educational process. Along with the software and hardware to support the educational process, educational material has also been developed and prepared to facilitate this procedure and accommodate the needs of both instructors and students. Therefore, up to this end a lot of innovative work has taken place. It is at this point that the current research project initiates. The proposed approach focuses on the value of the human interaction and communication. Furthermore, the proposed approach relies on the profiles of both students and instructors.

One of the subjects of research that need to be identified is the consideration and proper analysis of the learning preferences through distance education. In this context, the current research tried to identify the learning preferences. In this case, the Greek students' preferences are recorded. In the following sections a brief literature review will be presented. Then follows the methodology and the findings are then presented. Finally, conclusions and future research are presented.

2   DISTANT EDUCATION

The enhancement of learning through the use of collaborative strategies in a distance education. The goal of faculty development is to enhance student learning by assisting faculty to investigate how and why students learn, to deepen student learning through effective teaching strategies[1]. Boticario and Gaudioso (2000) research initiative has presented that personalized interaction with users/students can be successful in a transparent and efficient manner through the Web. Furthermore, personalization capacity of the system relies on the effectiveness of the design of the learning tasks. The research is based on various combinations of classifiers in the generalization tasks, filtering of information on the elements used, automatic extension of the system knowledge base, individual and collaborative learning for the user models and learning of the applications which are significant for the user [2].

Distance learning in today's society, changes the roles of both the teacher and the learner. This is even more significant with the use of new technologies to provide courses in regions with varying cultural and academic traditions. International education of such an approach experiences difficulties in facilitating cross-cultural learning. As a result, global changes call for the development of new pedagogies with new communication technologies in ways, which take into account issues of cultural diversity[3]. In addition, research focused on the implications of distance education for public affairs teaching and practice. Research made inquiries on educational objectives, students and their needs, adult learning theory, human and organizational limiting factors, implications for faculty, and the challenges of accreditation[4].

The next research focuses on two research questions. The first question examines whether distance education is a new and wonderful tool for improving and increasing access to the education experience. The second subject of the paper provides an inquiry regarding whether distance education is a new and problematic tool and if not well managed, it will negatively impact the education experience. In essence, the paper is trying to find the balance among traditional and distance education. The paper identifies both the advantages and disadvantages of the implementation of distance education to various aspects with emphasis on the access to education[5]. Moreover, developments in technology have equipped educators with a significant variety of electronic tools to facilitate them in transmitting knowledge to others. Critical focus of these technologies in higher education has been their application for the delivery of distance education. The current paper presents the kind of technology appropriate for the delivery of distance education. Furthermore, research has evaluated the effectiveness of these tools[6].

The current paper describes experiences with computer mediated communication (CMC) in a postgraduate information systems module over two successive years. CMC was introduced to enhance the learning experiences of students, but a further aim was to carry out an exploratory investigation into factors affecting its successful adoption and the benefits to students[7]. Brigham (1992) through his exploratory study investigates the course development process within a specific distance education context. The study seeks to identify factors and relationships among factors facilitating and impeding the development of distance education courses at Syracuse University, a large, private university in Central New York State[8].

In this paper, Shale and Garrison's model of distance education developed in the late 1980s is updated and critiqued for the late 1990s, through the addition of Internet-based distance education tools, such as electronic mail, newsgroups, chat lines and the World Wide Web. The suggested model of combining distance education with the Internet-based tools, aims to offer to professionals of human resource development (HRD) effective and efficient training solutions for the workforce[9].

This paper provides a brief overview of the types of new distance learning technologies and their uses in rural areas by several federally funded projects. Special reference is made to the Maine "Electronic Classroom", a distance education modality introduced to provide health care professions students with relevant rural practice skills, practical knowledge, and to accommodate specific academic schedules and needs. The purpose of the paper is to explore the advantages of new technologies in distance education beyond the obvious extension of the traditional classroom[10].

The objective of this paper is to focus on the roles and the process that characterize the design of online education courses, and also to draw some simple guidelines for designers of such courses. In particular it examines the cases where the online tutors are not real experts in the course content domain, while the experts in that content are unable or unwilling to be involved online. The specific problem has been highlighted in an Italian pilot project called Polaris, which was developed in 1996 and examined the educational potential that ICT can offer to in-service teacher training[11].

This article initially offers a definition for Online learning environments (OLEs) in higher education institutions. The main objective of the paper is the presentation of a framework to support a "directed" approach to OLEs that provides a basis for planning, designing, implementing and evaluating OLEs, as well as for online courses contained within OLEs[12]. As courses and programs of study provided through the Internet have brought a new dimension to virtual education, this article reviews some basic tenets for educational practice, considering current trends in distance education and possible future directions for higher education. The example of the Western Governor's University, a platform conceived in 1995 as a consortium of private and state supported institutions, is examined. Moreover, design and instructional issues for developing virtual education, along with issues raised by the emergence of business-oriented university systems, are considered[13].

3 METHODOLOGY

The core methodological approach of the current paper relies on a well-designed structured questionnaire survey. The questionnaire is divided into different parts. Each part records specific information related to distant education with emphasis on the students. The first section of the questionnaire is the demographics, the next section records the details of the distance education experience. Then, follows the learning preferences regarding the survey participant. In addition, participants are asked for the preferences regarding their fellow students' attributes and of course the preferences regarding their instructors' attributes and finally a personality questionnaire is included. The learning attributes and preferences were based on established learning theories and models. Furthermore, the personality questionnaire is based on the big five personality traits and the corresponding facets.

The questionnaire was approved by the university ethics committee and also the data protection committee and was implemented both on the google forms platform and on the lime survey platform. In the current paper, the responses from the Greek participating students will be presented. The number of responses is equal to 214. The responses were appropriately parameterized and an SPSS database was created. The number of questions is 124. Therefore, the SPSS database has 124 columns and 214 rows. Data was both categorical (nominal) and also quantitative (scaled values). Some of the scaled values were transformed into categorical. Then descriptive statics were analyzed to provide an insight into the learning preferences of the Greek Students.

The learning preferences in the current research were collected based on the following number of questions:

How much do the following statements describe yourself as a student (1 not at all, 5 completely)

1. I can better discern the material through watching a demonstrative presentation of the information.
2. I can understand the material better through listening and oral teaching methods.
3. I can better learn the teaching materials through taking notes and reading the written contexts and texts.
4. I can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real).
5. I have preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. I like to decide what to do and how to do it, rather than to be told.
6. I have preference for tasks, projects, and situations that provide structure, procedures, or rules to work with, and can serve as guidelines to measure progress. I often prefer to be told what to do, and I will then give it my best shot at doing it well.
7. I have preference for tasks, projects, and situations that require evaluation, analysis, comparison– contrast, and judgment of existing ideas, strategies and projects. I tend to like evaluative essays, commenting on other people's ideas, and assessing others' strengths and weaknesses.
8. I have preference for tasks, projects, and situations that allow focusing fully on one thing or aspect at a time, and staying with that thing until it is complete.
9. I have preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill. I will often make lists, and sometimes even lists of lists.
10. I have preference for tasks, projects, and situations that allow working with competing approaches, with multiple aspects or goals that are equally important.
11. I have preference for tasks, projects, and situations that lend themselves to great flexibility of approaches, and to trying anything when, where, and how I please (work asystematic or even antisystematic).
12. I have preference for tasks, projects, and situations that require engagement with specific, concrete details. I tend to enjoy tasks that require to keep track of details and to focus on concrete specifics of a situation.
13. I have a preference for tasks, projects, and situations that require engagement with large, global, abstract ideas. I like to deal with big ideas, but sometimes I can lose touch with the details.
14. I have a preference for tasks, projects, and situations that allow me to work independently of others.
15. I have a preference for tasks, projects, and situations that allow working with others in a group or interacting with others at different stages of progress. I do not enjoy working alone.
16. I have a preference for tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. I like new challenges and I thrive on ambiguity.
17. I have a preference for tasks, projects, and situations that require adherence to and observance of existing rules and procedures. I like to minimize change and avoid ambiguity.

Regarding the survey participants, their attributes could be briefly presented in the following table:

Sample	Mean
Age	34,2
Number of Children	0,9
Years at University Undergraduate	4,7
Years at University Master Degree	1,2
Years at University PhD	0,5
Semesters of distance learning education attended	2,5
Number of Courses with tuition fees completed with Distance learning Education Programs	2,7
Number of Courses without tuition fees completed with Distance learning Education Programs	7,2

4   RESULTS

Descriptive statistics provided a clear view regarding the learning styles of the Greek students in the context of distance education. More specifically, on a five – point likert scale, the results per each of the 17 questions are presented below. Participants were asked to assign scores that represented the degree

that the statements described the participant's preferences as student. It should be noted that 1 represents not at all, while the score of 5 corresponds to completely. The answers per each of the 17 questions are presented below:

- The largest portion of participants (32,7%) assigned a score of 4 to better discerning the material through watching a demonstrative presentation of the information.
- The largest portion of participants (36,4%) assigned a score of 4 to understanding the material better through listening and oral teaching methods.
- The largest portion of participants (53,7%) assigned a score of 5 to better learning the teaching materials through taking notes and reading the written contexts and texts.
- The largest portion of participants (31,8%) assigned a score of 5 to better conceiving the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real).
- The largest portion of participants (34,1%) assigned a score of 4 to preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. I like to decide what to do and how to do it, rather than to be told.
- The largest portion of participants (31,8%) assigned a score of 3 to preference for tasks, projects, and situations that provide structure, procedures, or rules to work with, and can serve as guidelines to measure progress. They often prefer to be told what to do and will then give it their best shot at doing it well.
- The largest portion of participants (32,7%) assigned a score of 3 to preference for tasks, projects, and situations that require evaluation, analysis, comparison–contrast, and judgment of existing ideas, strategies and projects. They tend to like evaluative essays, commenting on other people's ideas, and assessing others' strengths and weaknesses.
- The largest portion of participants (29%) assigned a score of 3 to preference for tasks, projects, and situations that allow focusing fully on one thing or aspect at a time, and staying with that thing until it is complete.
- The largest portion of participants (35 %) assigned a score of 3 to preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill. They will often make lists, and sometimes even lists of lists.
- The largest portion of participants (35,5%) assigned a score of 3 to preference for tasks, projects, and situations that allow working with competing approaches, with multiple aspects or goals that are equally important.
- The largest portion of participants (37,4%) assigned a score of 3 to preference for tasks, projects, and situations that lend themselves to great flexibility of approaches, and to trying anything when, where, and how they please (work asystematic or even antisystematic).
- The largest portion of participants (30,4%) assigned a score of 3 to preference for tasks, projects, and situations that require engagement with specific, concrete details. They tend to enjoy tasks that require to keep track of details and to focus on concrete specifics of a situation.
- The largest portion of participants (29,9%) assigned a score of 5 to preference for tasks, projects, and situations that require engagement with large, global, abstract ideas. They like to deal with big ideas, but sometimes they can lose touch with the details.
- The largest portion of participants (33,2%) assigned a score of 3 to preference for tasks, projects, and situations that allow them to work independently of others.
- The largest portion of participants (30,4%) assigned a score of 3 to preference for tasks, projects, and situations that allow working with others in a group or interacting with others at different stages of progress. They do not enjoy working alone.
- The largest portion of participants (33,2%) assigned a score of 4 to preference for tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. They like new challenges and they thrive on ambiguity.
- The largest portion of participants (39,3%) assigned a score of 4 to preference for tasks, projects, and situations that require adherence to and observance of existing rules and procedures. They like to minimize change and avoid ambiguity.

5   CONCLUSIONS

It is interesting to note that most of the learning styles received a score of three. It is important to highlight that a large number of participants in the survey (more than 50%) assigned a score of 5 to learning the teaching materials through taking notes and reading the written contexts and texts. Generally, the

majority tends with a percentage of 30% to assign the score three to each learning style. The only styles and learning preferences that received score four are:

- Preference for tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. They like new challenges and they thrive on ambiguity.
- Preference for tasks, projects, and situations that require adherence to and observance of existing rules and procedures. They like to minimize change and avoid ambiguity.
- Better conceiving the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real).
- Preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. They like to decide what to do and how to do it, rather than to be told

- Better discerning the material through watching a demonstrative presentation of the information.
- Understanding the material better through listening and oral teaching methods.

The styles and preferences that received a score of 5 include:

- Better conceiving the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real).
- Better learning the teaching materials through taking notes and reading the written contexts and texts
- Preference for tasks, projects, and situations that require engagement with large, global, abstract ideas. They like to deal with big ideas, but sometimes they can lose touch with the details.

It is obvious that simulated experiments, focus on big ideas and notes along with texts are among the favorite preferences and learning styles. The current research has also a number of limitations that should be considered. The time period that the research took place is the year 2023. In this analysis the participants are the Greek students who equal 214 people. All participants in the survey are university students. The survey took place through online forms.

As part of the future research the survey could be extended to include more years, and an increased number of Greek students. At the same time, participants from other countries are providing their responses. Their feedback would also be analyzed and comparisons will be provided. The learning styles and preferences recorded in the current survey could also be replaced by other proposed approaches.

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